0054767   H1237

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B99-093 H1237

DATE RECEIVED: 01/31/01   LVL LOT # :0101L869

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B11BW8						
% MOISTURE	001	SO	01L%S016	01/29/01	02/01/01	02/02/01
% MOISTURE	001 REP	SO	01L%S016	01/29/01	02/01/01	02/02/01
% SOLIDS	001	SO	01L%S016	01/29/01	02/01/01	02/02/01
% SOLIDS	001 REP	SO	01L%S016	01/29/01	02/01/01	02/02/01
B11BW9						
% MOISTURE	002	SO	01L%S016	01/29/01	02/01/01	02/02/01
% SOLIDS	002	SO	01L%S016	01/29/01	02/01/01	02/02/01
B11BX0						
% MOISTURE	003	SO	01L%S016	01/29/01	02/01/01	02/02/01
% SOLIDS	003	SO	01L%S016	01/29/01	02/01/01	02/02/01
B11BX1						
% MOISTURE	004	SO	01L%S016	01/29/01	02/01/01	02/02/01
% SOLIDS	004	SO	01L%S016	01/29/01	02/01/01	02/02/01
B11BX2						
% MOISTURE	005	SO	01L%S016	01/29/01	02/01/01	02/02/01
% SOLIDS	005	SO	01L%S016	01/29/01	02/01/01	02/02/01
B11BX3						
% MOISTURE	006	SO	01L%S016	01/29/01	02/01/01	02/02/01
% SOLIDS	006	SO	01L%S016	01/29/01	02/01/01	02/02/01
B11BX4						
% MOISTURE	007	SO	01L%S016	01/29/01	02/01/01	02/02/01
% SOLIDS	007	SO	01L%S016	01/29/01	02/01/01	02/02/01
B11BX5						
% MOISTURE	008	SO	01L%S016	01/29/01	02/01/01	02/02/01

01
06

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B99-093 H1237

DATE RECEIVED: 01/31/01   LVL LOT # :0101L869

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
% SOLIDS	008	SO	01L%S016	01/29/01	02/01/01	02/02/01

02

Analytical Report

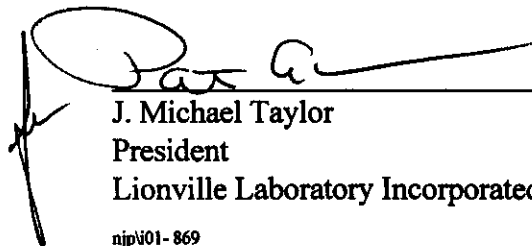**Client:** TNU-HANFORD B99-093 H1237 **W.O.#:** 10985-001-001-9999-00
LVL#: 0101L869 **Date Received:** 01-31-01

INORGANIC NARRATIVE

As of 27 January 2001, Recra LabNet Philadelphia became Lionville Laboratory Incorporated. Some forms may still reference Recra LabNet Philadelphia.

1. This narrative covers the analyses of 8 solid samples.

2. The samples were prepared and analyzed in accordance with the method checked on the attached glossary.

3. Sample holding times as required by the method and/or contract were met.

4. The replicate analyses were within the 20% Relative Percent Difference (RPD) control limit

5. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard copy package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

J. Michael Taylor 03-06-01
President Date
Lionville Laboratory Incorporated

njp\i01- 869

The results presented in this report relate to the analytical testing and conditions of the samples upon receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 10 pages.

Lionville Laboratory, Inc.

WET CHEMISTRY
METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

	ASTM	SW846	OTHER
% Ash	__ D2216-80		
% Moisture	✓ D2216-80		__ ILMO4.0 (e)
% Solids	✓ D2216-80		__ ILMO4.0 (e)
% Volatile Solids	__ D2216-80		
ASTM Extraction in Water	__ D3987-81/85		
BTU	__ D240-87		
CEC		__ 9081	__ c
Chromium VI		__ 3060A/7196A	
Corrosivity __ by coupon __ by pH		__ 1110(mod) __ 9045C	
Cyanide, Total		__ 9010B	__ ILMO4.0 (e)
Cyanide, Reactive		__ Section 7.3/9014	
Halides, Extractable Organic		__ 9020B	__ EPA 600/4/84-008
Halides, Total		__ 9020B	__ EPA 600/4/84-008
EP Toxicity		__ 1310A	
Flash Point		__ 1010	
Ignitability		__ 1010	
Oil & Grease		__ 9071A	
Carbon, Total Organic		__ 9060	__ Lloyd Kahn (mod)
Oxygen Bomb Prep for Anions	__ D240-87(mod)	__ 5050	
Petroleum Hydrocarbons, Total Recoverable		__ 9071	__ EPA 418.1
pH, Soil		__ 9045C	
Sulfide, Reactive		__ Section 7.3/9030B	
Sulfide		__ 9030B(mod)	
Specific Gravity	__ D1429-76C/	__ D5057-90	
Sulfur, Total		__ 9056	
Synthetic Preparation Leach		__ 1312	
Paint Filter		__ 9095A	

Other: **Method:**

Other: **Method**

04

02

Lionville Laboratory, Inc.

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LC = Laboratory Control Sample.
NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.

2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).

3. Test Methods for Evaluating Solid Waste (USEPA SW-846).

a. Standard Methods for the Examination of Water and Waste, 16 ed, (1983).

b. Standard Methods for the Examination of Water and Waste, 17 ed, (1989)/18ed (1992).

c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd ed, (1986).

d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965).

e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.

f. Code of Federal Regulations.

05

Lionville Lababoratory, Inc.

INORGANICS DATA SUMMARY REPORT   03/06/01

CLIENT: TNUHANFORD B99-093 H1237   LVL LOT #: 0101L869
WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B11BW8	% Moisture	4.1	%	0.01	1.0
		% Solids	95.9	%	0.01	1.0
-002	B11BW9	% Moisture	63.4	%	0.01	1.0
		% Solids	36.6	%	0.01	1.0
-003	B11BX0	% Moisture	63.1	%	0.01	1.0
		% Solids	36.9	%	0.01	1.0
-004	B11BX1	% Moisture	4.1	%	0.01	1.0
		% Solids	95.9	%	0.01	1.0
-005	B11BX2	% Moisture	59.6	%	0.01	1.0
		% Solids	40.4	%	0.01	1.0
-006	B11BX3	% Moisture	41.7	%	0.01	1.0
		% Solids	58.3	%	0.01	1.0
-007	B11BX4	% Moisture	9.3	%	0.01	1.0
		% Solids	90.7	%	0.01	1.0
-008	B11BX5	% Moisture	42.2	%	0.01	1.0
		% Solids	57.8	%	0.01	1.0

06
04

Lionville Lababoratory, Inc.

INORGANICS PRECISION REPORT   03/06/01

CLIENT: TNUHANFORD B99-093 H1237   LVL LOT #: 0101L869
WORK ORDER: 10985-001-001-9999-00

| | | | INITIAL | | | DILUTION |
SAMPLE	SITE ID	ANALYTE	RESULT	REPLICATE	RPD	FACTOR(REP)
-001REP	B11BW8	% Moisture	4.1	4.3	5.3	1.0
		% Solids	95.9	95.7	0.23	1.0

07
05

RECRA LabNet Use Only

0101L869

RECRA LabNet

Client: Hanford   TMU-Hanford   SAF B99-093
Est. Final Proj/Sampling Date: ___
Project #: 10985-001-001-9999-00
Project Contact/Phone #: ___
RECRA Project Manager: OS
QC: Spec   Del: Std   TAT: 30 day
Date Rec'd: 1-31-01   Date Due: 3-2-01
Account #: ___

Refrigerator #: 1

#/Type Container	Liquid	
	Solid	VAG
Volume	Liquid	
	Solid	250
Preservatives		

ANALYSES REQUESTED →

	ORGANIC					INORG	
	VOA	BNA	Pest/PCB	Herb		Metal	CN

RECRA LabNet Use Only

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	CL8424X	%DMST	
001	B11BW8			Solid	1-29-01	0931	1	✓	
002	9					1003	1	✓	
003	B11BX0					1022	1	✓	
004	1					1039	1	✓	
005	2					1052	1	✓	
006	3					1112	1	✓	
007	4					1126	1	✓	
008	5					1133	1	✓	

Special Instructions: Saf B99-093

Carbon Tetrachloride

DATE/REVISIONS:
1. Run Matrix QC
2. ___
3. ___
4. ___
5. ___
6. ___

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
EdEr	V.Herg	1-31-01	0945				

COMPOSITE WASTE   ORIGINAL REWRITTEN

Collector	Company Contact	Telephone No.	Project Coordinator	Price Code	Data Turnaround
Fahlberg/Watson	VJROHAY	372-9100	TRENT, SJ	9N	

Project Designation	Sampling Location	SAF No.	Air Quality ☐	**45 Days**
200-ZP-2 Passive Soil Vapor Extraction - Other Solid	200W	B99-093		

Ice Chest No. ERC 99·068 (1 of 1)

Field Logbook No.	COA	Method of Shipment
EL 1517-1	R20ZP2DP60	FED EX

Shipped To TMA/RECRA

Offsite Property No. A010199

Bill of Lading/Air Bill No. 42357954 – 2010

POSSIBLE SAMPLE HAZARDS/REMARKS

	Preservation	Cool 4C											
	Type of Container	aG											
	No. of Container(s)	1											
Special Handling and/or Storage Sample originated in non radiological zone <2000pci/g	Volume	250mL											

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	VOA - 8260A (TCL) (Carbon tetrachloride); Moisture Content - D2216										
B11BW8	OTHER SOLID	01-29-01	0931	X										
B11BW9	OTHER SOLID	01-29-01	1003	X										
B11BX0	OTHER SOLID	01-29-01	1022	X										
B11BX1	OTHER SOLID	01-29-01	1039	X										

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS	Matrix *
Relinquished By	Date/Time 1330	Received By	Date/Time 1330	** Laboratory may use medium level preparation for VOA. They are to report any other halogenated compounds found.	S=Soil
	01-29-01	Ref 2.B 01-29-01		** Laboratory must include the % Moisture data as part of all hard copy reports.	SE=Sediment
Relinquished By	Date/Time 0400	Received By R.Thorer	Date/Time 0400		SO=Solid
2B 3728 1/30/01		1/30/01			S=Sludge
Relinquished By R.Thorer	Date/Time 0400	Received By FEDEX	Date/Time	Samples stored in Ref.# 2B at the 3728	W=Water
	1/30/01			Shipping Facility on 1/24/01.	O=Oil
Relinquished By	Date/Time	Received By	Date/Time	Collector not available to relinquish samples	A=Air
	1-31-01 0945		1-31-01 0945	on 1/30/01 for shipment.	DS=Drum Solids
Relinquished By	Date/Time	Received By	Date/Time	RT 1/30/01	DL=Drum Liquids
					T=Tissue
Relinquished By	Date/Time	Received By	Date/Time		Wi=Wipe
					L=Liquid
					V=Vegetation
					X=Other

LABORATORY SECTION	Received By		Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method		Disposed By	Date/Time

BHI-EE-011 (10/99)

| Collector Fahlberg/Watson | Company Contact VJROHAY | Telephone No. 372-9100 | Project Coordinator TRENT, SJ | Price Code 9N | Data Turnaround |
| Project Designation 200-ZP-2 Passive Soil Vapor Extraction - Other Solid | Sampling Location 200W | | SAF No. B99-093 | Air Quality ☐ | 45 Days |

| Ice Chest No. ERP-44-408 (1of1) | Field Logbook No. EL 1517-1 | COA R20ZP2DP60 | Method of Shipment FED EX | |
| Shipped To TMA (RECRA) | Offsite Property No. AØ10199 | | Bill of Lading/Air Bill No. 4235 7954 — 2010 | |

POSSIBLE SAMPLE HAZARDS/REMARKS

	Preservation	Cool 4C										
	Type of Container	aG										
	No. of Container(s)	1										
Special Handling and/or Storage Sample originated in non radiological zone <2000pci/g	Volume	250mL										

SAMPLE ANALYSIS

VOA - 8260A (TCL) (Carbon tetrachloride); Moisture Content - D2216

Sample No.	Matrix *	Sample Date	Sample Time											
B11BX2	OTHER SOLID	01·29·01	1052	X										
B11BX3	OTHER SOLID	01·29·01	1112	X										
B11BX4	OTHER SOLID	01·29·01	1126	X										
B11BX5	OTHER SOLID	01·29·01	1133	X										

CHAIN OF POSSESSION	Sign/Print Names		SPECIAL INSTRUCTIONS	Matrix *
Relinquished By R Fhlberg RFahlberg 01·29·01	Date/Time 1330	Received By Stored in Ref 2.B 01·29·01	Date/Time 1330	** Laboratory may use medium level preparation for VOA. They are to report any other halogenated compounds found.	S=Soil SE=Sediment SO=Solid S=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other
Relinquished By Removed from Ref. 2B 3728	Date/Time 0900 1/30/01	Received By RThorer	Date/Time 0900 1/30/01	
Relinquished By RThorer	Date/Time 0900 1/30/01	Received By FEDEX	Date/Time	** Laboratory must include the % Moisture data as part of all hard copy reports.
Relinquished By FedEx	Date/Time 1-31-01 0945	Received By	Date/Time 1·31-01 0945	Samples stored in Ref.# 2B at the 3728 Shipping Facility on 1/30/01. Collector not available to relinquish samples on 1/30/01 for shipment. RT 1/30/01
Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)

Lionville Laboratory, Inc.
VOA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B99-093 H1237

DATE RECEIVED: 01/31/01   RFW LOT # :0101L869

CLIENT ID	RFW #		MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B11BW8	001	M1	SO	01LVN032	01/29/01	N/A	02/07/01
B11BW8	001 MS	M1	SO	01LVN032	01/29/01	N/A	02/07/01
B11BW8	001 MSD	M1	SO	01LVN032	01/29/01	N/A	02/07/01
B11BW9	002	M1	SO	01LVN032	01/29/01	N/A	02/07/01
B11BX0	003	M1	SO	01LVN032	01/29/01	N/A	02/07/01
B11BX1	004	M1	SO	01LVN030	01/29/01	N/A	02/06/01
B11BX2	005	M1	SO	01LVN032	01/29/01	N/A	02/07/01
B11BX3	006	M1	SO	01LVN030	01/29/01	N/A	02/06/01
B11BX4	007	M1	SO	01LVN030	01/29/01	N/A	02/06/01
B11BX5	008	M1	SO	01LVN030	01/29/01	N/A	02/06/01

LAB QC:

CLIENT ID	RFW #		MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
VBLKMV	MB1		S	01LVN032	N/A	N/A	02/07/01
VBLKMV	MB1 BS		S	01LVN032	N/A	N/A	02/07/01
VBLKMU	MB1		S	01LVN030	N/A	N/A	02/06/01

LVLI
LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B99-093
LVL#: 0101L869
SDG/SAF #: H1237/B99-093

W.O. #: 10985-001-001-9999-00
Date Received: 01-31-01

GC/MS VOLATILE

The set of samples consisted of eight (8) solid samples collected on 01-29-01.

The samples and their associated QC samples were analyzed according to criteria set forth in Lionville laboratory OPs based on SW 846 Method 8260A for client specified volatile target compound Carbon Tetrachloride on 02-06,07-01.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1.   The cooler temperature upon receipt has been recorded on the chain-of-custody.

2.   The samples were analyzed within required holding time.

3.   Non-target compounds were detected in the method blank.

4.   All surrogate recoveries were within EPA QC limits.

5.   All samples required medium level analysis because they contained high levels of target compounds. In addition, the following samples required dilutions:

Sample ID	Dilution Factor
B11BX1	2x
B11BX3	10x
B11BX4	2x
B11BX5	50x

Due to programming limitations, the dilution factor does not reflect the correct dilution.

5.   All matrix spike recoveries were within EPA QC limits.

6.   All blank spike recoveries were within EPA QC limits.

7.   All internal standard area and retention time criteria were met.

8.   "I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of   21   pages.

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

2

9. As of January 27, 2001, Recra LabNet Philadelphia became Lionville Laboratory Incorporated. Some Forms may still reference Recra LabNet Philadelphia.

_____   _____
J. Michael Taylor   Date
President
Lionville laboratory Incorporated
pef\group\data\voa\tnu-hanford-01-869doc

GLOSSARY OF VOA DATA

DATA QUALIFIERS

U   =   Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.

J   =   Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.

B   =   This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.

E   =   Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.

D   =   Identifies all compounds identified in an analysis at a secondary dilution factor.

I   =   Interference.

NQ   =   Result qualitatively confirmed but not able to quantify.

N   =   Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

X   =   This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).

Y   =   Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF VOA DATA

ABBREVIATIONS

BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.

BSD = Indicates blank spike duplicate.

MS = Indicates matrix spike.

MSD = Indicates matrix spike duplicate.

DL = Suffix added to sample number to indicate that results are from a diluted analysis.

NA = Not Applicable.

DF = Dilution Factor.

NR = Not Required.

SP, Z = Indicates Spiked Compound.

	Cust ID:	**B11BW8**	**B11BW8**	**B11BW8**	**B11BW9**	**B11BX0**	**B11BX1**
Sample	RFW#:	001	001 MS	001 MSD	002	003	004
Information	Matrix:	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
	D.F.:	2.05	2.05	2.05	1.51	1.54	4.21
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
	Level:	MED	MED	MED	MED	MED	MED
	1,2-Dichloroethane-d4	101 %	107 %	104 %	103 %	106 %	106 %
Surrogate	Toluene-d8	104 %	104 %	97 %	104 %	104 %	109 %
Recovery	Bromofluorobenzene	89 %	88 %	85 %	86 %	88 %	86 %
	=========================fl=========fl=========fl=========fl=========fl=========fl
Carbon Tetrachloride_____		13000	92 %	89 %	43000	44000	19000

	Cust ID:	**B11BX2**	**B11BX3**	**B11BX4**	**B11BX5**	**VBLKMV**	**VBLKMV BS**
Sample	RFW#:	005	006	007	008	01LVN032-MB1	01LVN032-MB1
Information	Matrix:	SOLID	SOLID	SOLID	SOLID	SOIL	SOIL
	D.F.:	1.95	19.0	4.10	100	2.00	2.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
	Level:	MED	MED	MED	MED	MED	MED
	1,2-Dichloroethane-d4	100 %	99 %	100 %	102 %	104 %	102 %
Surrogate	Toluene-d8	104 %	103 %	104 %	105 %	104 %	100 %
Recovery	Bromofluorobenzene	86 %	87 %	85 %	94 %	87 %	88 %
	=========================fl=========fl=========fl=========fl=========fl=========fl
Carbon Tetrachloride_____		35000	140000	54000	2100000	620 U	110 %

*= Outside of EPA CLP QC limits.

Cust ID: **VBLKMU**

Sample Information	RFW#:	**01LVN030-MB1**
	Matrix:	SOIL
	D.F.:	2.00
	Units:	UG/KG
	Level:	MED

	1,2-Dichloroethane-d4	101	%
Surrogate	Toluene-d8	103	%
Recovery	Bromofluorobenzene	90	%

===fl===========fl===========fl===========fl===========fl===========fl

Carbon Tetrachloride	620	U

*= Outside of EPA CLP QC limits.

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

| B11BW8

Lab Name: <u>Lionville Labs, Inc.</u> Work Order: <u>10985001001</u>

Client: <u>TNUHANFORD B99-093 H1237</u>

Matrix:	<u>SOLID</u>	Lab Sample ID: <u>0101L869-001</u>
Sample wt/vol:	<u>3.90</u> (g/mL) <u>G</u>	Lab File ID: <u>n020709</u>
Level: (low/med) <u>MED</u>		Date Received: <u>01/31/01</u>
% Moisture: not dec. <u>4</u>		Date Analyzed: <u>02/07/01</u>
Column: (pack/cap) <u>CAP</u>		Dilution Factor: <u>2.05</u>

CONCENTRATION UNITS:
Number TICs found: <u>1</u>   (ug/L or ug/Kg) <u>UG/KG</u>

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	16.291	800	JB

FORM 1 VOA-TIC   12/88 Rev.

8

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B11BW9

Lab Name: Lionville Labs, Inc. Work Order: 10985001001

Client: TNUHANFORD B99-093 H1237

Matrix: SOLID	Lab Sample ID: 0101L869-002
Sample wt/vol: 5.30 (g/mL) G	Lab File ID: n020710
Level: (low/med) MED	Date Received: 01/31/01
% Moisture: not dec. 63	Date Analyzed: 02/07/01
Column: (pack/cap) CAP	Dilution Factor: 1.51

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	16.267	1000	JB

FORM 1 VOA-TIC   12/88 Rev.

q

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B11BX0

Lab Name: Lionville Labs, Inc. Work Order: 10985001001

Client: TNUHANFORD B99-093 H1237

Matrix: SOLID	Lab Sample ID: 0101L869-003
Sample wt/vol: 5.20 (g/mL) G	Lab File ID: n020711
Level: (low/med) MED	Date Received: 01/31/01
% Moisture: not dec. 63	Date Analyzed: 02/07/01
Column: (pack/cap) CAP	Dilution Factor: 1.54

Number TICs found: _1_

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	16.246	1000	JB

FORM 1 VOA-TIC   12/88 Rev.

10

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

| B11BX1 |

Lab Name: <u>Lionville Labs, Inc.</u> Work Order: <u>10985001001</u>

Client: <u>TNUHANFORD B99-093 H1237</u>

Matrix: <u>SOLID</u>   Lab Sample ID: <u>0101L869-004</u>

Sample wt/vol: <u>3.80</u> (g/mL) <u>G</u>   Lab File ID: <u>n020618</u>

Level: (low/med) <u>MED</u>   Date Received: <u>01/31/01</u>

% Moisture: not dec. <u>4</u>   Date Analyzed: <u>02/06/01</u>

Column: (pack/cap) <u>CAP</u>   Dilution Factor: <u>4.21</u>

Number TICs found: <u>1</u>

CONCENTRATION UNITS:
(ug/L or ug/Kg) <u>UG/KG</u>

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	3.485	20000	J

11

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B11BX2

Lab Name: <u>Lionville Labs, Inc.</u> Work Order: <u>10985001001</u>

Client: <u>TNUHANFORD B99-093 H1237</u>

Matrix: <u>SOLID</u>   Lab Sample ID: <u>0101L869-005</u>

Sample wt/vol: <u>4.10</u> (g/mL) <u>G</u>   Lab File ID: <u>n020712</u>

Level: (low/med) <u>MED</u>   Date Received: <u>01/31/01</u>

% Moisture: not dec. <u>60</u>   Date Analyzed: <u>02/07/01</u>

Column: (pack/cap) <u>CAP</u>   Dilution Factor: <u>1.95</u>

                                    CONCENTRATION UNITS:
Number TICs found: <u>1</u>   (ug/L or ug/Kg) <u>UG/KG</u>

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	16.252	2000	JB

FORM 1 VOA-TIC   12/88 Rev.

12

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B11BX3

Lab Name: Lionville Labs, Inc. Work Order: 10985001001

Client: TNUHANFORD B99-093 H1237

Matrix: SOLID	Lab Sample ID: 0101L869-006
Sample wt/vol: 4.20 (g/mL) G	Lab File ID: n020617
Level: (low/med) MED	Date Received: 01/31/01
% Moisture: not dec. 42	Date Analyzed: 02/06/01
Column: (pack/cap) CAP	Dilution Factor: 19.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	3.486	100000	J

FORM 1 VOA-TIC   12/88 Rev.

13

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

| B11BX4 |

Lab Name: <u>Lionville Labs, Inc.</u> Work Order: <u>10985001001</u>

Client: <u>TNUHANFORD B99-093 H1237</u>

Matrix: <u>SOLID</u>   Lab Sample ID: <u>0101L869-007</u>

Sample wt/vol: <u>3.90</u> (g/mL) <u>G</u>   Lab File ID: <u>n020619</u>

Level: (low/med) <u>MED</u>   Date Received: <u>01/31/01</u>

% Moisture: not dec. <u>9</u>   Date Analyzed: <u>02/06/01</u>

Column: (pack/cap) <u>CAP</u>   Dilution Factor: <u>4.10</u>

CONCENTRATION UNITS:
Number TICs found: <u>0</u>   (ug/L or ug/Kg) <u>UG/KG</u>

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
============	===============================	========	==============	=====
1.				

FORM 1 VOA-TIC   12/88 Rev.

14

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B11BX5

Lab Name: Lionville Labs, Inc. Work Order: 10985001001

Client: TNUHANFORD B99-093 H1237

Matrix:	SOLID	Lab Sample ID:	0101L869-008
Sample wt/vol:	4.00 (g/mL) G	Lab File ID:	n020616
Level: (low/med)	MED	Date Received:	01/31/01
% Moisture: not dec.	42	Date Analyzed:	02/06/01
Column: (pack/cap)	CAP	Dilution Factor:	100

CONCENTRATION UNITS:

Number TICs found: 1   (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	3.486	90000	J

FORM 1 VOA-TIC   12/88 Rev.

|5

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

Lab Name: <u>Lionville Labs, Inc.</u> Work Order: <u>10985001001</u>

| |
|VBLKMV
|_____

Client: <u>TNUHANFORD B99-093 H1237</u>

Matrix:	<u>SOIL</u>	Lab Sample ID:	<u>01LVN032-MB1</u>

Sample wt/vol: <u>4.00</u> (g/mL) <u>G</u>   Lab File ID: <u>n020705</u>

Level: (low/med) <u>MED</u>   Date Received: <u>02/07/01</u>

% Moisture: not dec. ___<u>0</u>   Date Analyzed: <u>02/07/01</u>

Column: (pack/cap) <u>CAP</u>   Dilution Factor: <u>2.00</u>

CONCENTRATION UNITS:

Number TICs found: <u>1</u>   (ug/L or ug/Kg) <u>UG/KG</u>

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	16.277	800	J

FORM 1 VOA-TIC   12/88 Rev.

16

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

VBLKMU

Lab Name: Lionville Labs, Inc. Work Order: 10985001001

Client: TNUHANFORD B99-093 H1237

Matrix: SOIL   Lab Sample ID: 01LVN030-MB1

Sample wt/vol: 4.00 (g/mL) G   Lab File ID: n020611

Level: (low/med) MED   Date Received: 02/06/01

% Moisture: not dec. ____0   Date Analyzed: 02/06/01

Column: (pack/cap) CAP   Dilution Factor: 2.00

                            CONCENTRATION UNITS:
Number TICs found: 1   (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	16.272	300	J

FORM 1 VOA-TIC   12/88 Rev.

17

RECRA LabNet

RECRA LabNet Use Only
01 01 L 869

Custody Transfer Record/Lab Work Request
FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

8

INU-Hanford

Client: Hanford SAF B99-093	Refrigerator #	A 1
Est. Final Proj. Sampling Date	#/Type Container — Liquid	
	Solid VAG 1	
Project # 10985-001-001-9999-00	Volume — Liquid	
Project Contact/Phone #	Solid 250 1	
RECRA Project Manager QS	Preservatives 1	
QC Spec Del Std TAT 30 day		
Date Rec'd 1-31-01 Date Due 3-2-01		
Account #		

ANALYSES REQUESTED ➤

ORGANIC: VOA BNA Pest/PCB Herb
INORG: Metal CN

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS / MSO	Matrix	Date Collected	Time Collected	CL6H X	%MST
001	B11BW8		Solid	1-29-01	0931	1	✓
002	9				1003	1	✓
003	B11BX0				1022	1	✓
004	1				1039	1	✓
005	2				1052	1	✓
006	3				1112	1	✓
007	4				1126	1	✓
008	5				1133	1	✓

Special Instructions: Saf B99-093

Carbon Tetrachloride

DATE/REVISIONS:
1. Run Matrix QC
2.
3.
4.
5.
6.

RECRA LabNet Use Only
Samples were:
1) Shipped ✓ or Hand Delivered
Airbill # Betw
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec'l Y or N
Cooler 4
Temp. 4 °C

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Ed Er	V. Her S	1-31-01	0945	COMPOSITE WASTE	ORIGINAL		

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:
4235 7954 2010

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B99-093-23

Collector: Fahlberg/Watson	Company Contact VJROHAY	Telephone No. 372-9100	Project Coordinator TRENT, SJ	Price Code 9N	Data Turnaround
Project Designation 200-ZP-2 Passive Soil Vapor Extraction - Other Solid	Sampling Location 200W		SAF No. B99-093	Air Quality ☐	45 Days
Ice Chest No. ERC 99-068 (1 of 1)	Field Logbook No. EL 1517-1	COA R20ZP2DP60	Method of Shipment FED EX		
Shipped To TMA/RECRA	Offsite Property No. AØ10199		Bill of Lading/Air Bill No. 42357454-2010		

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage
Sample originated in non radiological zone <2000pci/g

	Preservation	Cool 4C						
	Type of Container	aG						
	No. of Container(s)	1						
	Volume	250mL						

SAMPLE ANALYSIS — VOA - 8260A (TCL) (Carbon tetrachloride); Moisture Content - D2216

Sample No.	Matrix *	Sample Date	Sample Time						
B11BW8	OTHER SOLID	01-29-01	0931	X					
B11BW9	OTHER SOLID	01-29-01	1003	X					
B11BX0	OTHER SOLID	01-29-01	1022	X					
B11BX1	OTHER SOLID	01-29-01	1039	X					

CHAIN OF POSSESSION

Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
RFahl / RFahlberg	01-29-01	Stored FL / Ref Z.B	1330 / 01-29-01
Remoucdiver / 2B 3728	0400 / 1/30/01	R.Thore / R.Thoren	0400 / 1/30/01
R.Thorep	0400 / 1/30/01	FEDEX	
Fed Ex	1-31-01 0945	Kid Hemen	1-31-01 0945
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

** Laboratory may use medium level preparation for VOA. They are to report any other halogenated compounds found.

** Laboratory must include the % Moisture data as part of all hard copy reports.

Samples stored in Ref.#ZB at the 3728 Shipping Facility on 1/29/01. Collector not available to relinquish samples on 1/30/01 for shipment.

RT 1/30/01

Matrix *
S=Soil
SE=Sediment
SO=Solid
S=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B99-093-24 Page 1 of 1

Collector Fahlberg/Watson	**Company Contact** VJROHAY	**Telephone No.** 372-9100	**Project Coordinator** TRENT, SJ

Price Code 9N

Data Turnaround 45 Days

Project Designation 200-ZP-2 Passive Soil Vapor Extraction - Other Solid	**Sampling Location** 200W	**SAF No.** B99-093

Air Quality ☐

Ice Chest No. ERC-49.008 (1of1)

Field Logbook No. EL 1517-1

COA R20ZP2DP60

Method of Shipment FED EX

Shipped To TMA RECRA

Offsite Property No. AØ18199

Bill of Lading/Air Bill No. 42357954 — 2010

POSSIBLE SAMPLE HAZARDS/REMARKS

Preservation	Cool 4C
Type of Container	aG
No. of Container(s)	1
Volume	250mL

Special Handling and/or Storage Sample originated in non radiological zone <2000pci/g

SAMPLE ANALYSIS

VOA - 8260A (TCL) (Carbon tetrachloride); Moisture Content - D2216

Sample No.	Matrix *	Sample Date	Sample Time										
B11BX2	OTHER SOLID	01·29·01	1052	X									
B11BX3	OTHER SOLID	01·29·01	1112	X									
B11BX4	OTHER SOLID	01·29·01	1126	X									
B11BX5	OTHER SOLID	01·29·01	1153	X									

CHAIN OF POSSESSION   **Sign/Print Names**

SPECIAL INSTRUCTIONS
** Laboratory may use medium level preparation for VOA. They are to report any other halogenated compounds found.
** Laboratory must include the % Moisture data as part of all hard copy reports.

Relinquished By	Date/Time 1330	Received By Stored in	Date/Time 1330
RCUO R Fahlberg 01·29·01		Ref 2.B 01-29-01	
Relinquished By Removed from Ref 2B 3728 1/30/01	Date/Time 0400	Received By RJ RThoren	Date/Time 0400 1/30/01
Relinquished By RThoren 1/30/01	Date/Time 0400	Received By FEDEX	Date/Time
Relinquished By FedEx 1-31-01 0945	Date/Time	Received By 1-31-01 0945	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Samples stored in Ref.# 2B at the 3728
Shipping Facility on 1/30/01.
Collector not available to relinquish samples
on 1/30/01 for shipment.

RT 1/30/01

Matrix *
S=Soil
SE=Sediment
SO=Solid
S=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title		Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method		Disposed By	Date/Time

BHI-EE-011 (10/99)

Figure 1. Sample Check-in List

Date/Time Received: _/-31-01_

SDG#: _0101L869_

Work Order Number: _____   SAF# _R99-093_

Shipping Container ID: _ERC-99-068_   Chain of Custody #_____

1. Custody Seals on shipping container intact?   Yes [√] No []

2. Custody Seals dated and signed?   Yes [√] No []

3. Chain-of-Custody record present?   Yes [√] No []

4. Cooler temperature _____ 4⁰

5. Vermiculite/packing materials is   Wet [] Dry [√]

6. Number of samples in shipping container: _____ 12

7. Sample holding times exceeded?   Yes [] No [√]

8. Samples have:
   _____tape   _____hazard labels
   _√_custody seals   _____appropriate sample labels

9. Samples are:
   _√_in good condition   _____leaking
   _____broken   _____have air bubbles

10. Were any anomalies identified in sample receipt?   Yes [] No [√]

11. Description of anomalies (include sample numbers): _____

_____

Sample Custodian/Laboratory: _R. Herrera Lomielle_   Date: _1-31-01_

Telephoned to:_____ On _____ By_____

21